8-2

Field Inspection Reports:

Review Concrete Pipe

Objective

Access to Concrete Pipe

Using the windows in the Concrete Pipe sub-module

Access To Review Concrete Pipe

Step 1: Choose **Field Inspection Reports** from the **Functions** menu in HiCAMS.

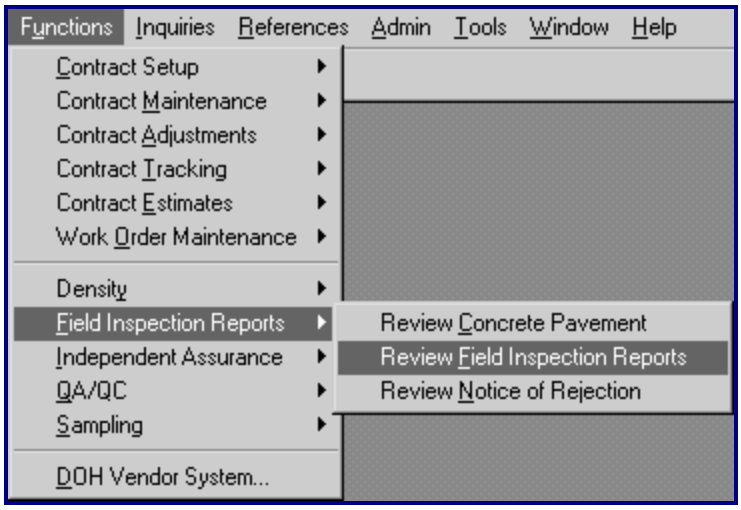


Figure 1 - Access to Review Field Inspection Reports

Step 2: To access a NEW Concrete Pipe Report, click on the *Report Name* field and select Concrete Pipe.

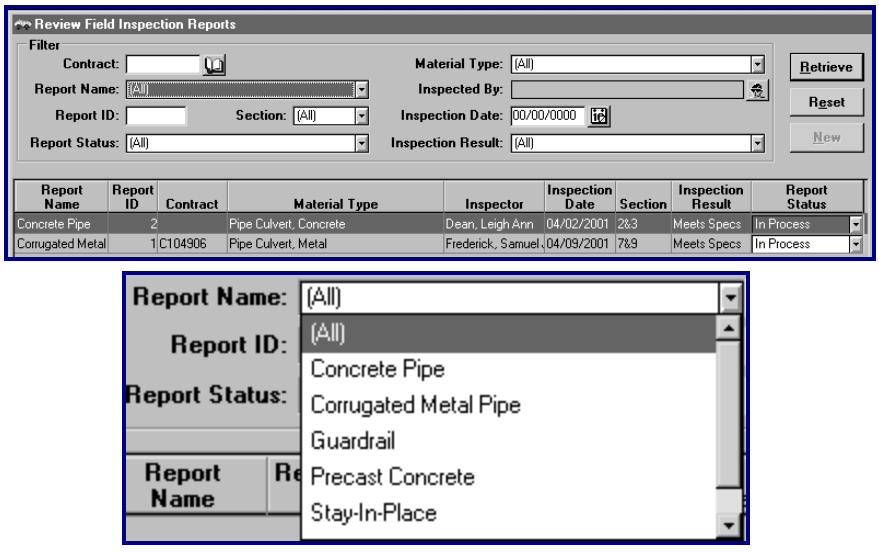


Figure 2 - Access to a new Concrete Pipe Report

Step 3: Click the **New** button and the following initial screen for Concrete Pipe is displayed:

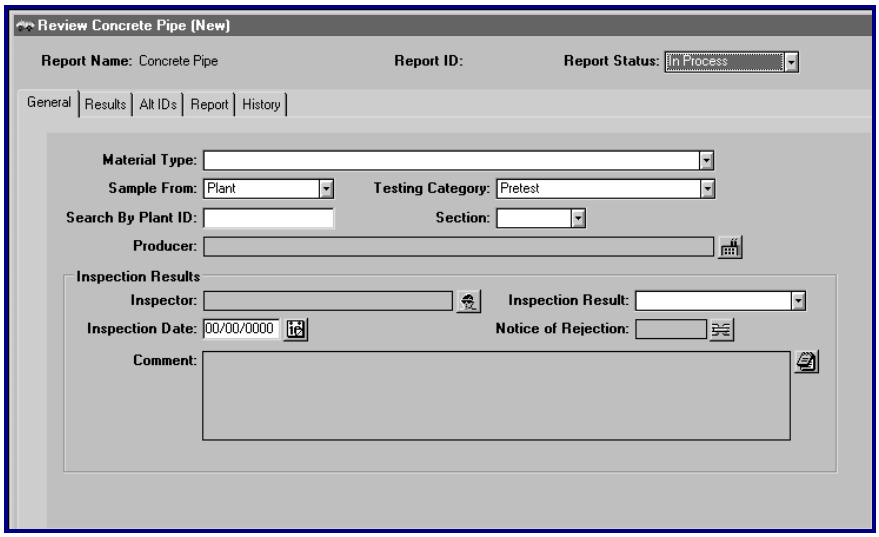


Figure 3 - New Review Concrete Pipe Window

To access an existing Concrete Pipe Report, follow **Step 2** above, click the **Retrieve** button, and double-click the desired report from the list displayed. An alternate method is to click the **Details Button**, after highlighting the desired report.

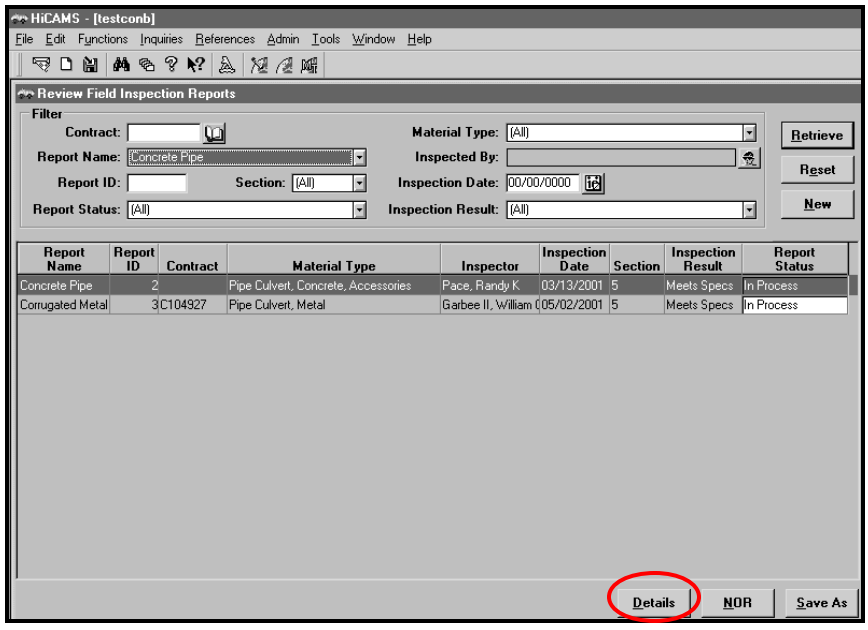


Figure 4 - Access to an EXISTING Concrete Pipe Report

Step 4: The **Concrete Pipe Report Details Window** is displayed as shown in the example below:

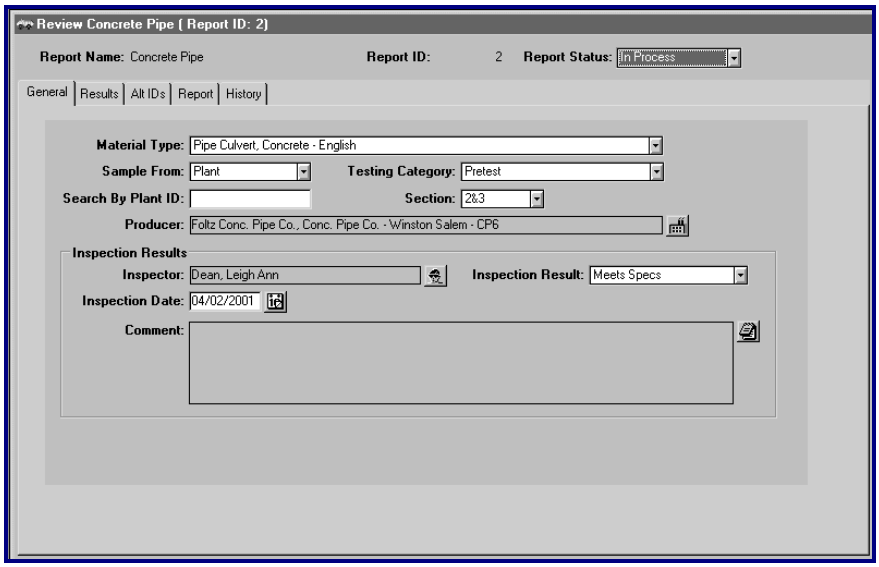


Figure 5 - Initial Review Concrete Pipe Details (General Tab Window)

Note: *To further aid in the retrieval of an EXISTING report, there are filtering functions available in HiCAMS. These filter functions are especially helpful when choosing from a very large listing of reports. See* ***Field Inspection Reports: Overview - Retrieval Tips for all Field Inspection Reports*** *for details using these functions.*

General Tab - Review Concrete Pipe

The concrete pipe report differs from other reports in that the Contract Number is not used to enter/retrieve test results. Contract information is not utilized due to the fact that the project that it may be used on is not known at the time of testing. The window allows only one Material Type per Report with one or more associated Materials.

To select the *Material Type*, where the *Sample* is from, the *Testing Category*, the *Approved Producer/Supplier*, *Report Status*, and all of the *Inspection Results* data use the various drop-down menus and entry fields on the **General** tab as follows:

The Report Status can be changed (*Authorize, Unauthorized, or Void*) only by:

- M & T Management
- Materials Operations Engineer

- Section Material Specialist

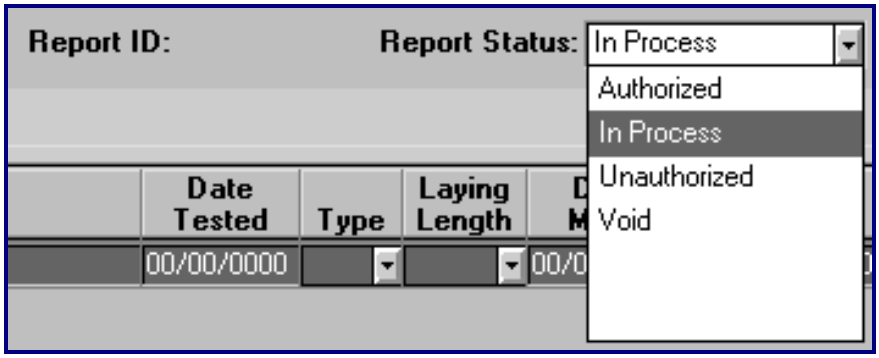


Figure 6 - Review Concrete Pipe Report Status Drop-Down Menu

The valid **Material Types** available for the **Concrete Pipe General Tab** window are:

- Pipe Culvert, Concrete (English and Metric.)
- Pipe Culvert, Concrete, Accessories – Both

Note: *The material types listed are based upon those entered in the Minimum Sampling Guide. The Materials Operations Engineer maintains this list. To view the list, select Reference °Minimum Sampling Guide.*

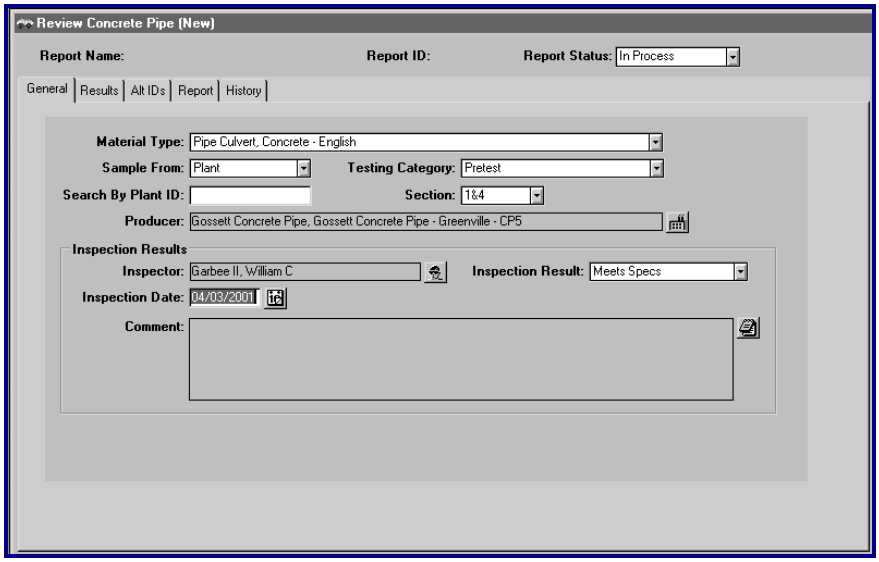


Figure 7 - Review Concrete Pipe General Tab Window

Note: *If the Material Type is changed after entering the rest of the data in this window, the following message may appear describing possible loss of associated data.*

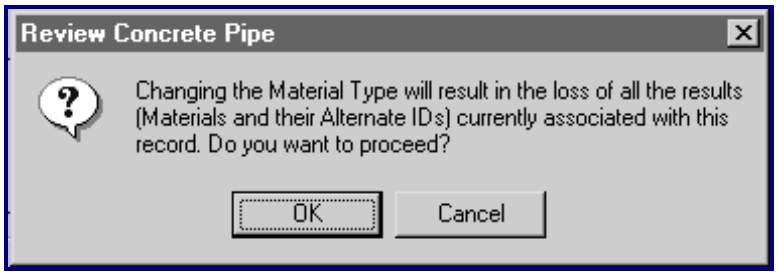


Figure 8 - Advisory Message

Step 1: *Plant* is the default for the **Sample From** field and *Pretest* is the default for **Testing Category**. Use the drop-down to change the default if necessary.

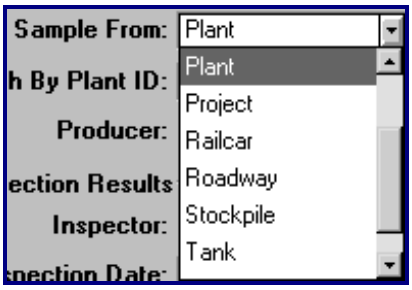


Figure 9 - Sample From field

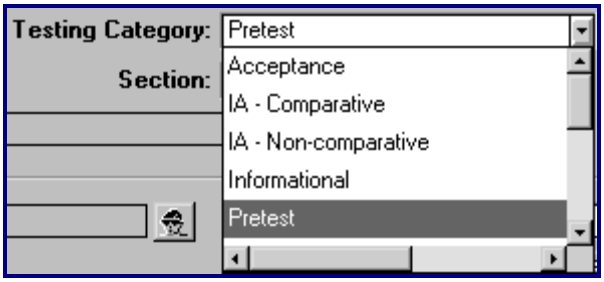


Figure 10 - Testing Category field

Step 2: To select a **Section**, use the drop-down menu.

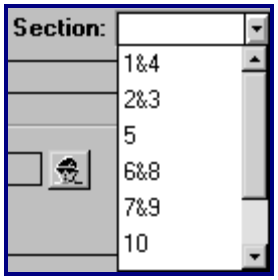


Figure 11 - Section field

Step 3: To select a **Producer**, click the  button. The Producer/Supplier list will be limited based upon the report and material selected.

Note: *The Material Type must be selected first before a Concrete Pipe Producer can be retrieved. See Field Inspection Reports: Overview for any further instructions on retrieving a Producer.*

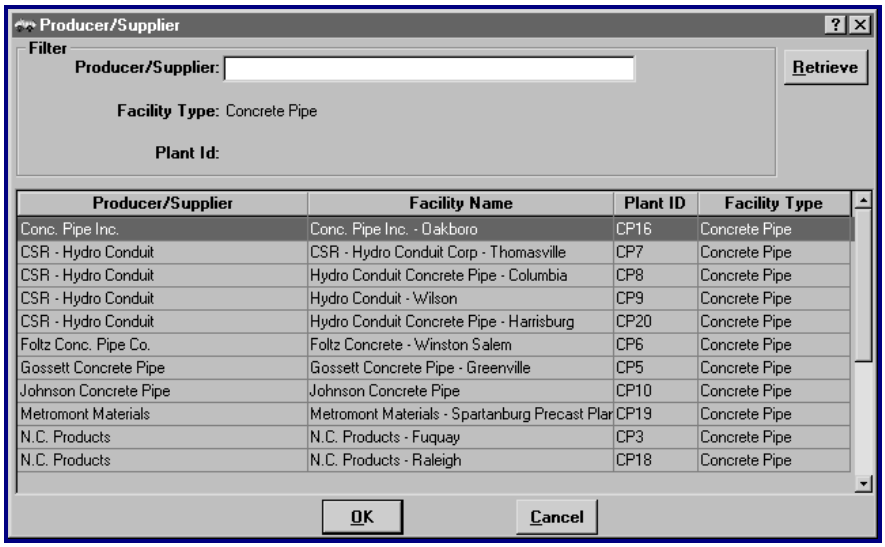


Figure 12 - Producer/Supplier retrieve window filtered for Concrete Pipe

Step 4: To select an **Inspector**, click the  button.

Note: *The Staff List window defaults to M & T - Field Section, Central. See Field Inspection Reports: Overview for any further instructions on retrieving an Inspector.*

Step 5: To select an **Inspection Result**, click the button and select from the list. See **Field Inspection Reports: Overview** for any further instructions.

Step 6: The **Inspection Date** is entered by using the Calendar tool  .

Step 7: The **Notice of Rejection** (NOR) field/button allows access to the report's NOR.

Results Tab - Review Concrete Pipe

The **Results Tab** Window contains all test results for the individual Materials: *Material, Date Made, Date Tested, Type, Laying Length, Accepted* and *Rejected* quantities. In the lower portion of the tab window, *First Crack, Ultimate Load,* and *Compressive Strength* is available for data entry.

Step 1: To insert a new test results row into this tab window, click the **Insert** button .

Step 2: To delete a result row, select the row to be deleted and click the **Erase** button:

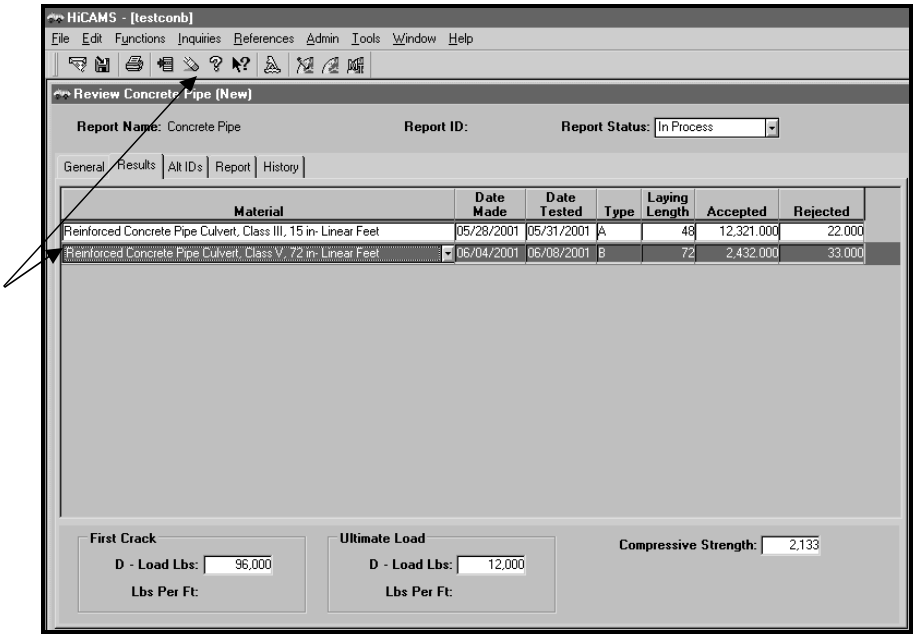


Figure 13 - Review Concrete Pipe Result Tab Window

Step 3: To select the **Material**, select the *Material* field and all applicable selections are displayed. This Material list is filtered by the **Material Type** / **General** Tab, (English, Metric or Both.) Double-click the desired Material to select.

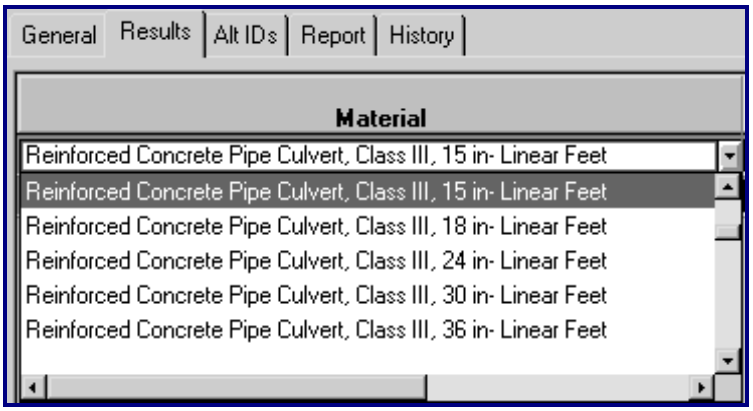


Figure 14 - Review Concrete Pipe Material Drop-Down

Note: *An error message may appear to alert the user that the Material must contain associated Class information. If this condition is not rectified, the Material cannot be entered into the Results Tab window. The messages describe what action(s) need to be taken to correct the error. See example message below:*

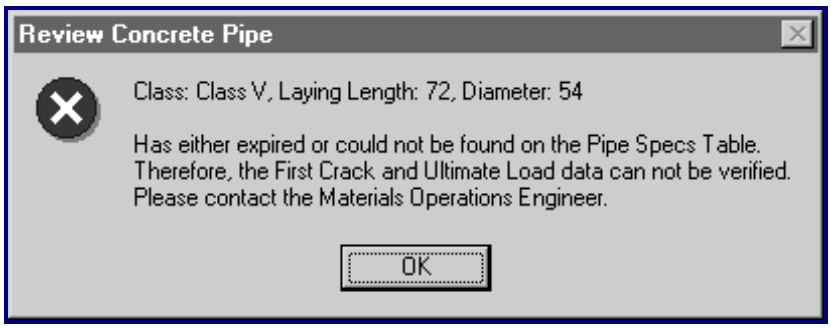
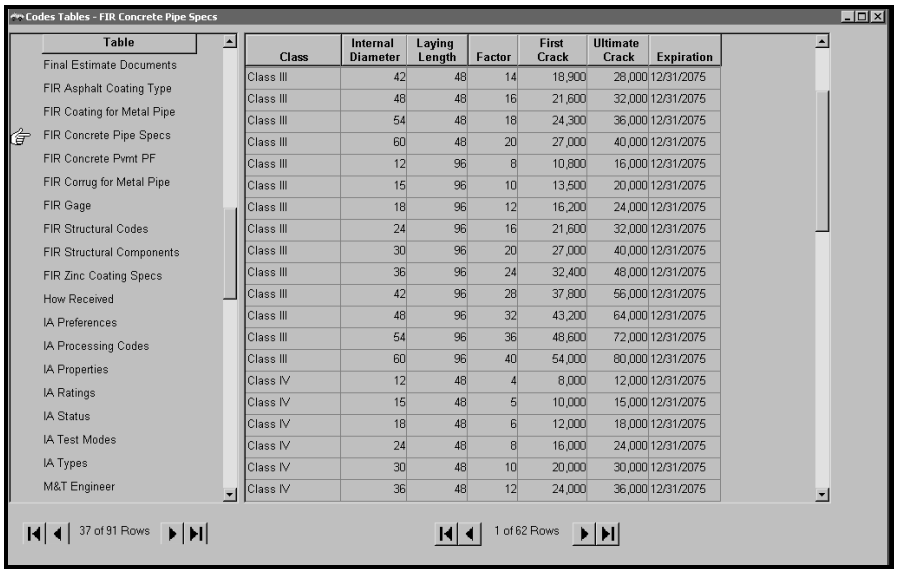


Figure 15 - Advisory Message

The specs for the concrete pipe material are maintained by the MOE and are listed in the codes tables. To view the code table for **FIR Concrete Pipe Specs**, perform the following:

1 Select the **Admin ≡ Codes Tables** menu. A list of codes tables used in HiCAMS displays.

2 Scroll through the list and select "**FIR Concrete Pipe Specs**" from the list. The following is an example of the information contained in the table:



Class	Internal Diameter	Laying Length	Factor	First Crack	Ultimate Crack	Expiration
Class III	42	48	14	18,900	28,000	12/31/2075
Class III	48	48	16	21,600	32,000	12/31/2075
Class III	54	48	18	24,300	36,000	12/31/2075
Class III	60	48	20	27,000	40,000	12/31/2075
Class III	12	96	8	10,800	16,000	12/31/2075
Class III	15	96	10	13,500	20,000	12/31/2075
Class III	18	96	12	16,200	24,000	12/31/2075
Class III	24	96	16	21,600	32,000	12/31/2075
Class III	30	96	20	27,000	40,000	12/31/2075
Class III	36	96	24	32,400	48,000	12/31/2075
Class III	42	96	28	37,800	56,000	12/31/2075
Class III	48	96	32	43,200	64,000	12/31/2075
Class III	54	96	36	48,600	72,000	12/31/2075
Class III	60	96	40	54,000	80,000	12/31/2075
Class IV	12	48	4	8,000	12,000	12/31/2075
Class IV	15	48	5	10,000	15,000	12/31/2075
Class IV	18	48	6	12,000	18,000	12/31/2075
Class IV	24	48	8	16,000	24,000	12/31/2075
Class IV	30	48	10	20,000	30,000	12/31/2075
Class IV	36	48	12	24,000	36,000	12/31/2075

To select the **Date Made**, double-select the field and use the **Calendar** tool that is automatically displayed. Double-click on the date to select. This date displays the day the material was made.

Step 4: To set the **Date Tested**, double-select the field and use the **Calendar** tool. Double-click the test date to select. This date displays the day that the material was tested.

Note: *This date field will default to today's date but can be changed if the actual rating calculations were performed in the field on a previous date, and are only now being entered into HiCAMS.*

Step 5: To set the **Type for the Material**, click the *Type* drop-down menu and choose A, B , or C.

Figure 16 - Material Type Drop-Down Menu

Note: *For consistency, the Type must be selected from a predefined list consisting of the letters A, B, or C. This information is used to indicate the Wall Thickness.*

Step 6: To select **Laying Length**, use the drop-down menu to make the appropriate choice for this material.

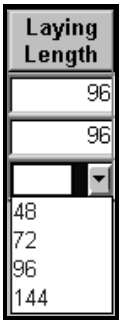


Figure 17 - Laying Length Drop-Down Menu

The Laying Length can be entered manually, or the length can be selected from the drop down list. The accepted laying lengths are also maintained using the FIR Concrete Pip Spec code table.

Step 7: To select **Accepted** and **Rejected** quantities, select each field and enter the appropriate amount.

When a number greater than zero is entered in the Quantity Rejected field, a Notice of Rejection is automatically generated by the system regardless of the overall status of the report.

Step 8: To enter **First Crack** and **Ultimate Load**, select each field and enter the appropriate amount for each field.

The "First Crack D-Load Lbs" and "Ultimate D-Load Lbs" fields must both be equal to or greater than the valid specification value in order for the material to "Meet Specs". (The specification value to be used is determined by the Class and Internal Diameter of the selected material as well as the Laying Length.)

The HiCAMS system will calculate the "Lbs Per Ft." field for both First Crack and Ultimate Load using a formula.

Note: *The system will calculate the "Lbs Per Ft." field for both First Crack and Ultimate Load using the following formula:*

- *Divide the Internal Diameter and the Laying Length by 12 to convert from inches to feet (i.e. 54" becomes 4.5 feet and 48" becomes 4 feet). Multiply the results from step one to obtain the factor (i.e. 4.5 x 4 = 18)*

- *For First Crack, multiply the result of step two by 1350 (i.e. 18 x 1350 = 24,300). For Ultimate, multiply the result of step two by 2000 (i.e. 18 x 2000 = 36,000). This data correlates to the data that is already in the columns on the spec table.*
- *The LBS PER FEET D is calculated by dividing the number entered in the LOAD LBS field by the factor obtained in step 2. For example 23000/16 = 1438. This is the value that the system will place in the corresponding First Crack and Ultimate lbs per feet fields.*

These fields are protected on the window:

Figure 18 - Review Concrete Pipe First Crack/Ultimate Load Fields

Note: *If the record is saved at this point without entering First Crack and Ultimate Load, the following message is displayed:*

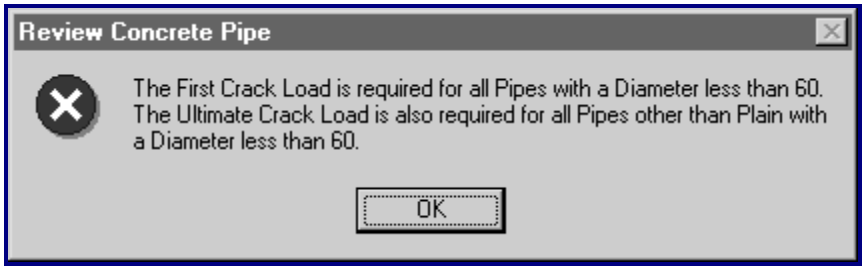


Figure 19 - Advisory Message - First Crack & Ultimate Crack

Step 9: To enter **Compressive Strength**, select the field and enter the appropriate strength data:

Figure 20 - Compressive Strength Field

The Compressive Strength data is only required when the Concrete Pipe material exceeds a diameter of 60. The system will alert the user if necessary:

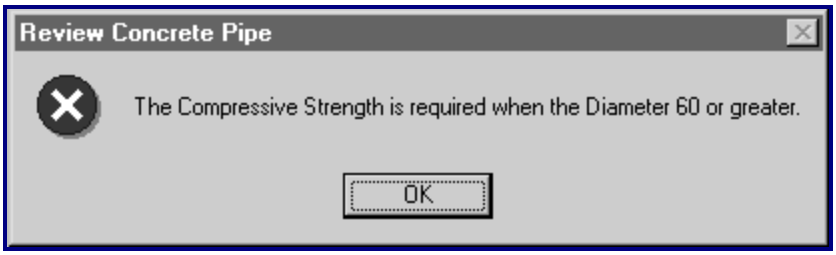


Figure 21 - Compressive Strength Message

Note: *Materials with a Diameter 60 or greater are not cracked. Therefore, the First Crack and Ultimate Crack fields are not required. Instead, a Compressive Strength is taken and is required. The Compressive Strength is not compared to the specification data used on smaller pipes. Likewise, Materials with a Metric/English code of "Both" that typically have a unit of measure of "Each", will require a compressive strength.*

Step 10: Save the record, click the **Save** button.

Figure 22 - Typical Advisory Message, Required Information

Note: *Saving a record can be performed at any point. If the record save is interrupted at any point, it is usually as a result of incomplete data entry. There are various messages that the system may display based upon what is required to be entered in order to save the record. The following is one such example message.*

Step 11: To rectify the saving error, take note of the message, click the **OK** button, enter the required data mentioned in the message, and click the **Save** button.

Alt IDs Tab - Review Concrete Pipe (New)

One or more *Alternate IDs* may be entered for the material being tested. The Alternate ID will default to the Plant/Facility ID and the Date Made with the user having the ability to edit this data. The following displays the initial **Alt IDs Tab** Window:

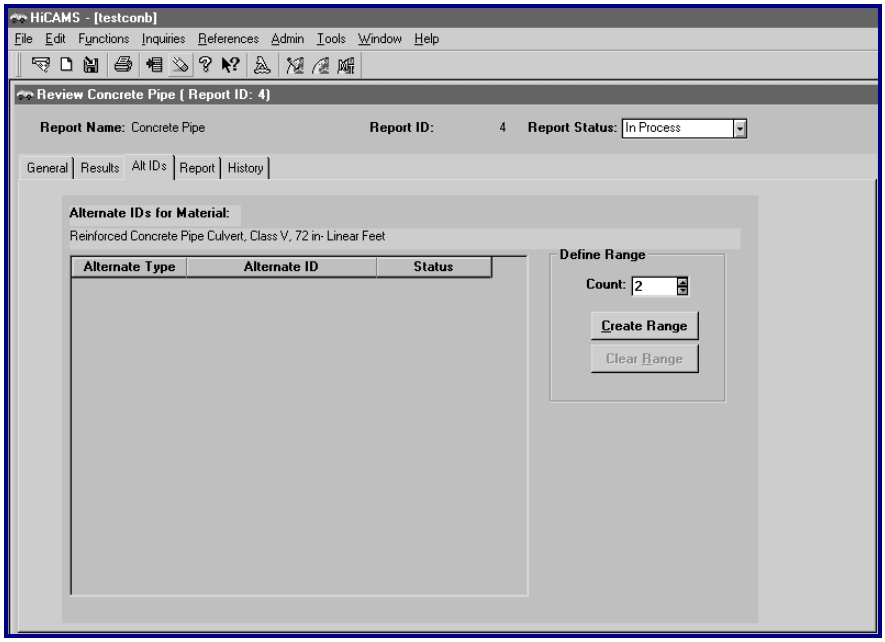


Figure 23 - Review Concrete Pipe Alt IDs Tab Window
(prior to inserting a data row)

Step 1: To enter an **Alternate ID** row, click the **Insert** button. To delete an **Alternate ID** row, click the **Erase** button on the ID row to delete and the data entry row is deleted.

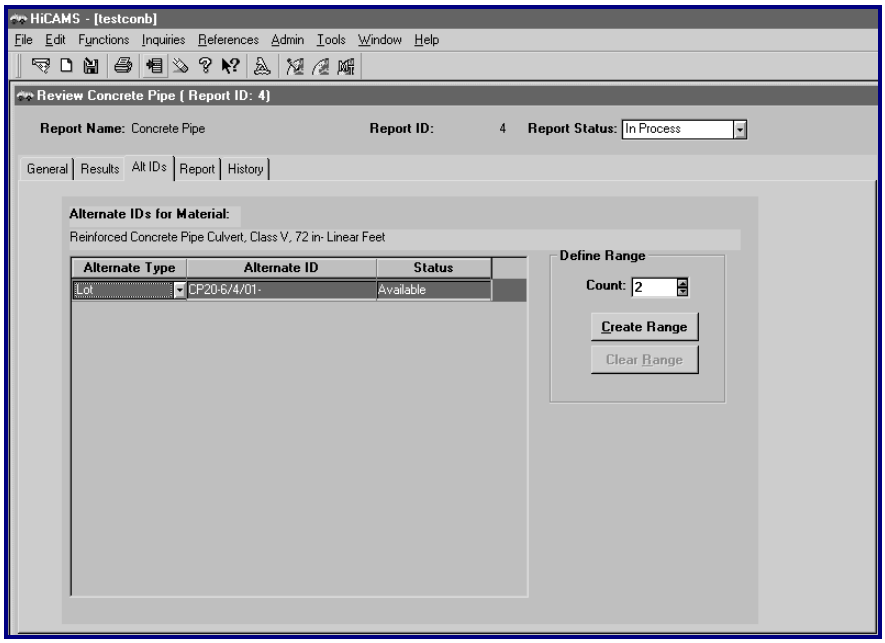


Figure 24 - Review Concrete Pipe Alt ID Row Insert/Delete

Note: *If the Date Made information WAS NOT entered into the Results Tab window, the system displays this error message while inserting an Alternate ID row:*

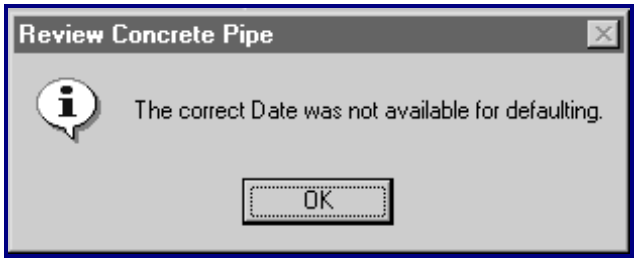


Figure 25 - Date Error Message

If the Date Made information has been entered into the Results Tab window, the system displays the Alternate ID with the date made:

Figure 26 - Alternate ID row WITHOUT Default Date Made.

If only the Date Tested information has been entered into the Results Tab window, the system displays the Alternate ID date as follows:

Step 2: To select an **Alternate Type**, click the drop-down arrow or select the field.

Figure 27 - Alternate Type Drop-Down

Note: *The Alternate Type defaults to "Lot". An error message could also appear in the case of duplicate Alternate IDs, as this example shows:*

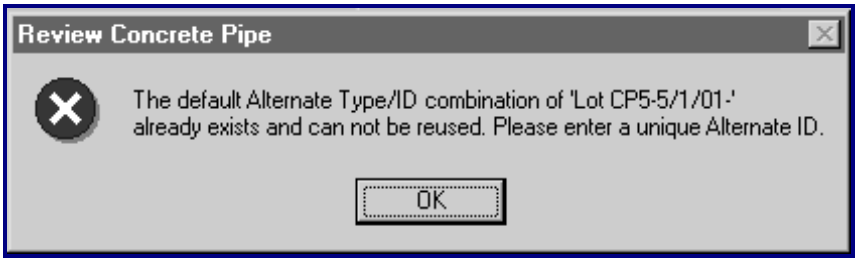


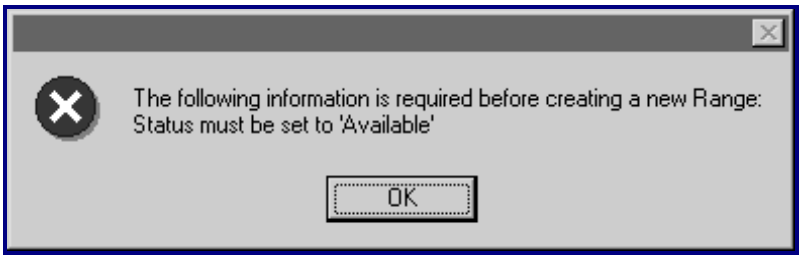
Figure 28 - Duplicate Alternate Type/ID Error Message

Step 3: The Alternate ID number is defaulted according to the Producer that was selected on the **General Tab** and to the Date Made that was entered on the **Results Tab**.

Tip: *An example of an alternate id is CP111-10/24/01-000 where CP111 is the Plant/Facility, 10/24/2001 is the date, and 000 is a placeholder for a piece number to be added.*

Under the **Define Range** area, you can **Create** or **Clear a Range** for Alternate Types / Alternate IDs.

Step 4: To create a range, select the *Alternate ID* field just to the right of the ID number and add a numeric suffix to start the range to be specified by the count. If the range is defined without an Available Status, the following message will appear:



Step 5: To specify the **Count** for the range, click the up/down arrows or enter the amount inside the field and click the **Create Range** button. The Range is created as shown in the following example:

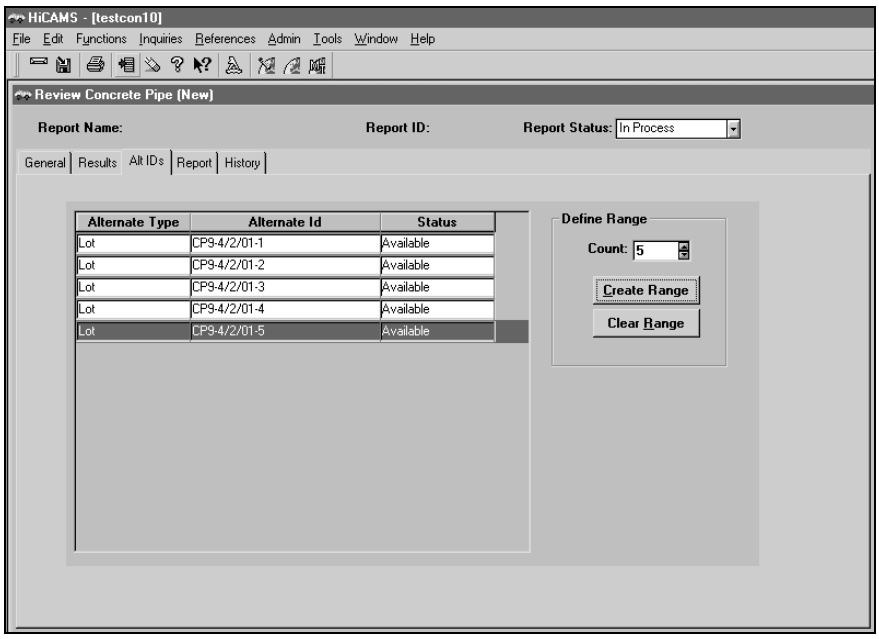


Figure 29 - Review Concrete Pipe Alt Ids/Create Range

Step 6: To clear the range, click the **Clear Range** button.

Note: *The Alternate IDs tab information can be set up at the start of report/record data entry. At a later date, the tab supports any changes to the status of the material's alternate types.*

Report Tab - Review Concrete Pipe (New)

Click the Report Tab. To view the entire report, use the scroll bars or use Print Preview:

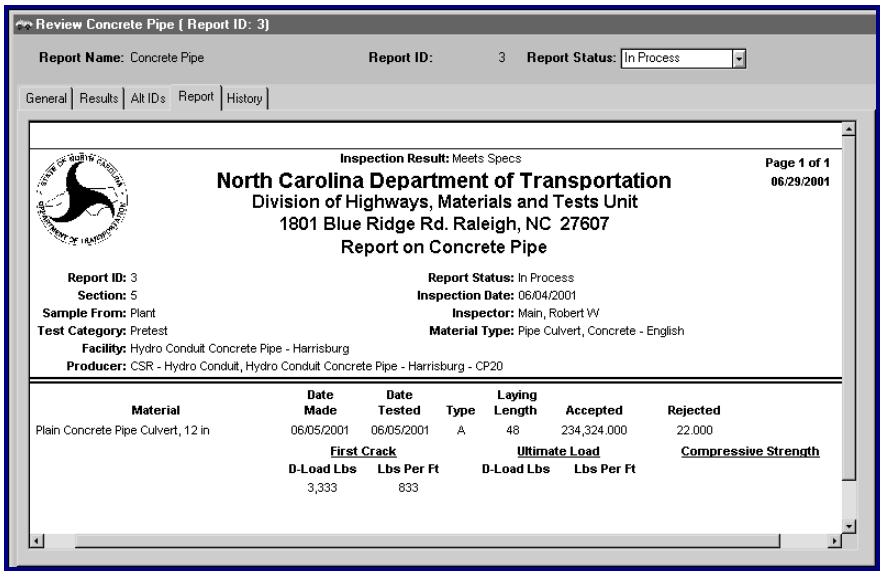


Figure 30 - Review Concrete Pipe Report Tab Window

Each material from the **Results Tab** window will be displayed on the report.

Step 1: To print the report, click the **Print** icon on the toolbar. HiCAMS will generate a printable version of the report. The Report on Concrete Pipe window will display:

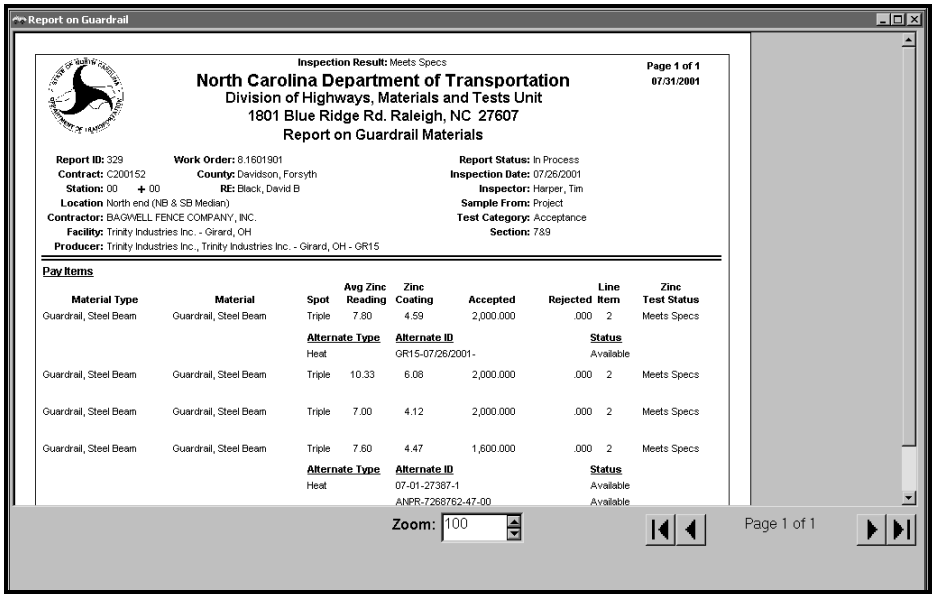
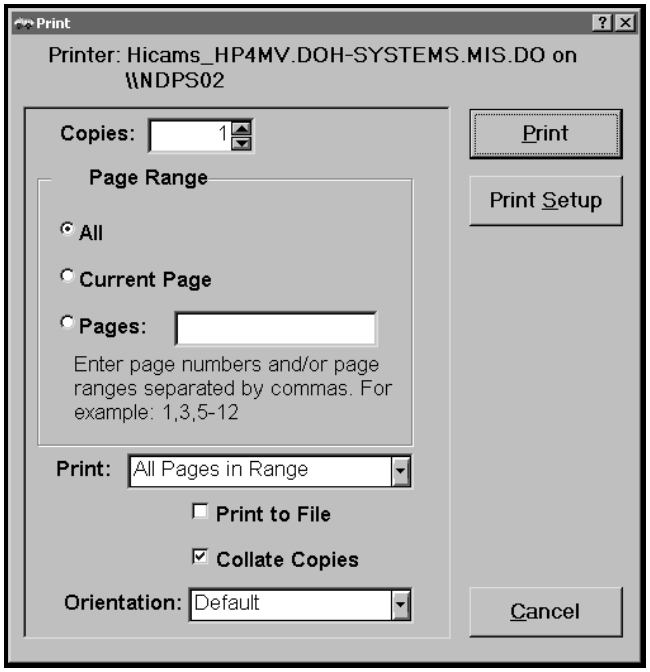


Figure Figure 31 - Report on Concrete Pipe

Step 2: Click the print icon once again to print the report. The Print setup window will display. Click the **Print** button to print the report:



History Tab - Review Concrete Pipe

Actions that have been performed for an individual report are listed located under the **History Tab** window. The Tab includes the *Action taken, Action Date/Time, Status,* and *Who* performed the action. This area also contains historical comments that have been entered.

To view the individual comments for each action, click the comment row to display -the associated comment:

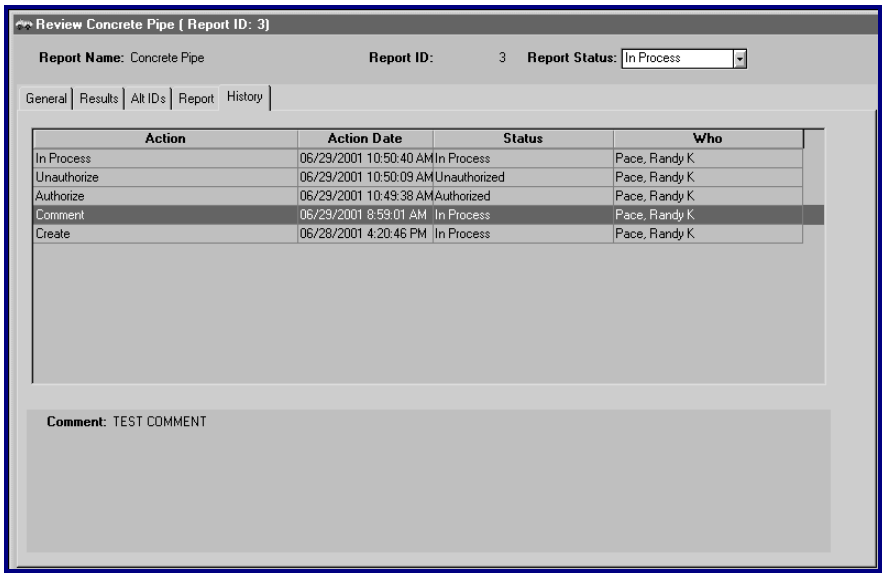
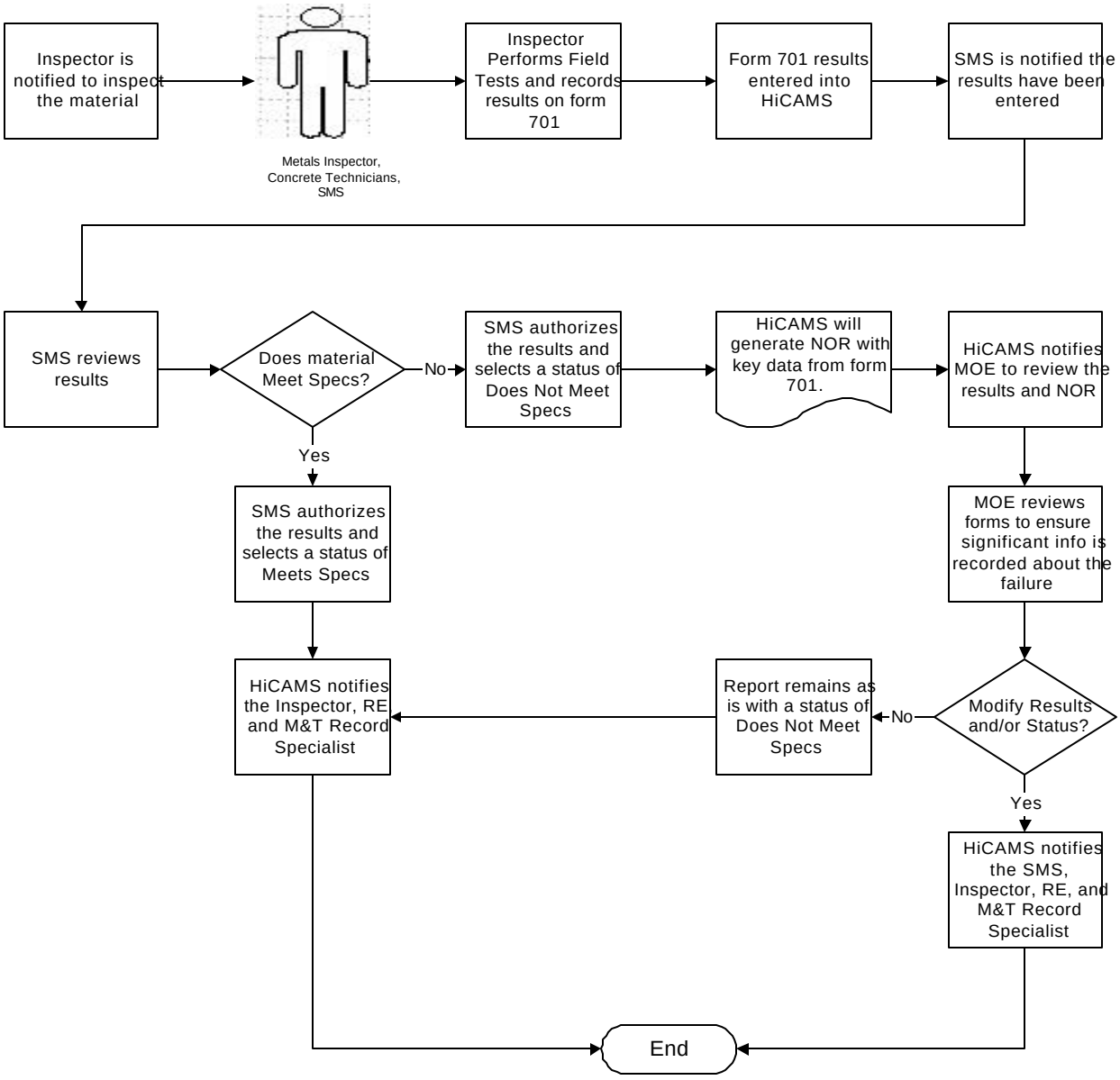


Figure 32 - Review Concrete Pipe History Tab Window

REPORT ON CONCRETE PIPE PROCESS FLOW



MOE - Materials Operation Engineer
RE - Resident Engineer
SCE - State Construction Engineer
SMS - Section Material Specialist